

Cedar St Sewer Separation

Rock removal

March 21, 2017

Agenda

- History
- Project timeline
- Project team
- Project locus
- Progress and schedule
- Hammering and blasting technique
- Questions

History

July 28, 2014 Hall St at Cedar: 2.2 inches in 1 hour

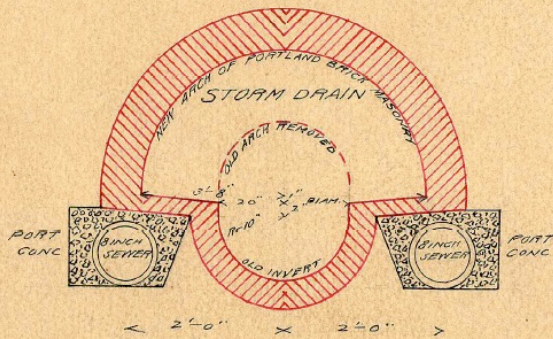


History

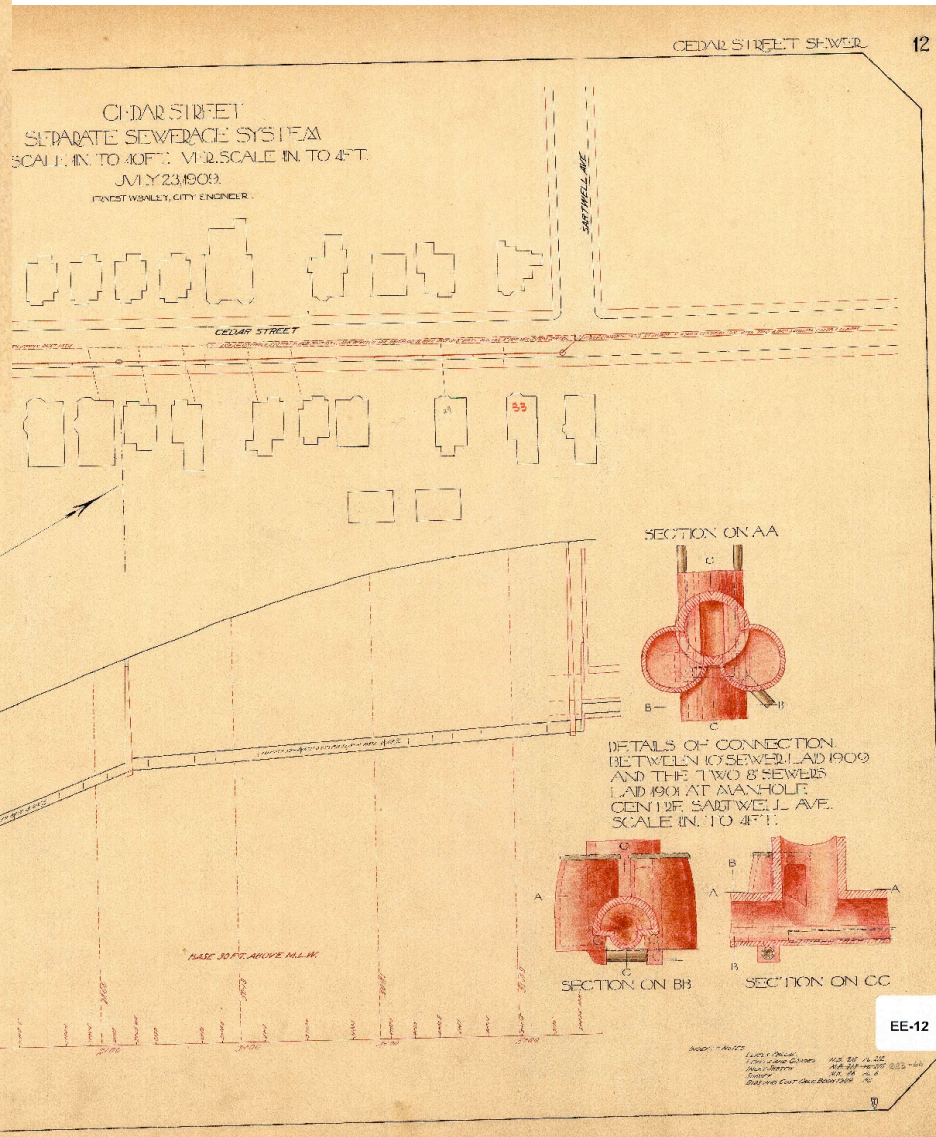
July 10, 2010 Hall St at Cedar: 2.5 inches in 1 hour



History



Typical Section "Sta 0+00 to Sta 4+82.26
From Sta 0+00 Southerly to Sta 2+64.5
same as above without side sewers.



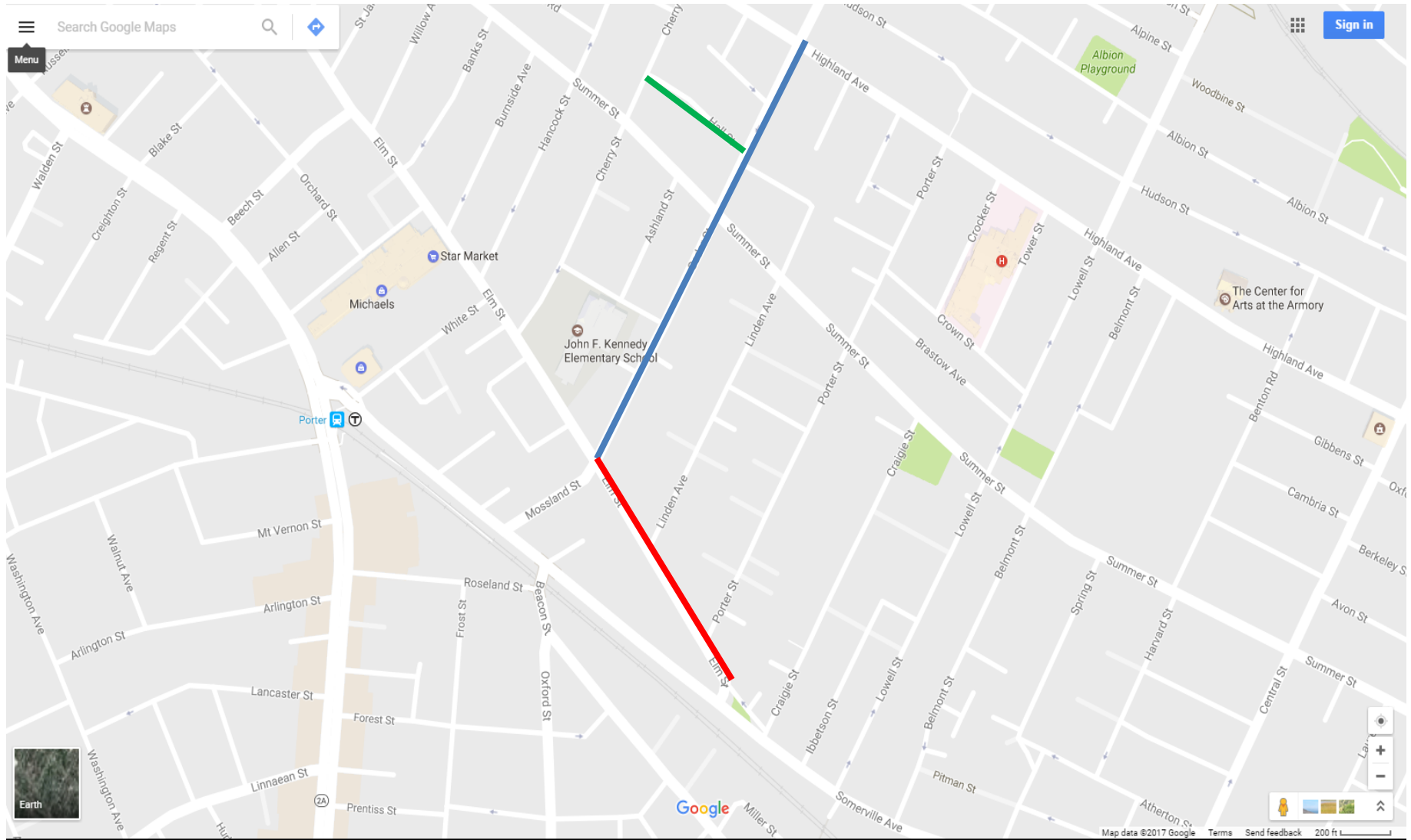
Project Timeline

- Design initiated late 2013
- Bids received winter 2016
- Construction started summer 2016

Project Team

- City
 - Director of Engineering
 - Richard E. Raiche, P.E., PMP
 - Assistant Director of Engineering
 - Bryan Manter, P.E.
- Consultant - Weston & Sampson
 - Designer + Resident Engineer
 - Paul Greco, P.E.
- Contractor – P. Gioioso and Sons
 - Superintendent
 - John Gioioso

Project Locus



2016 Progress

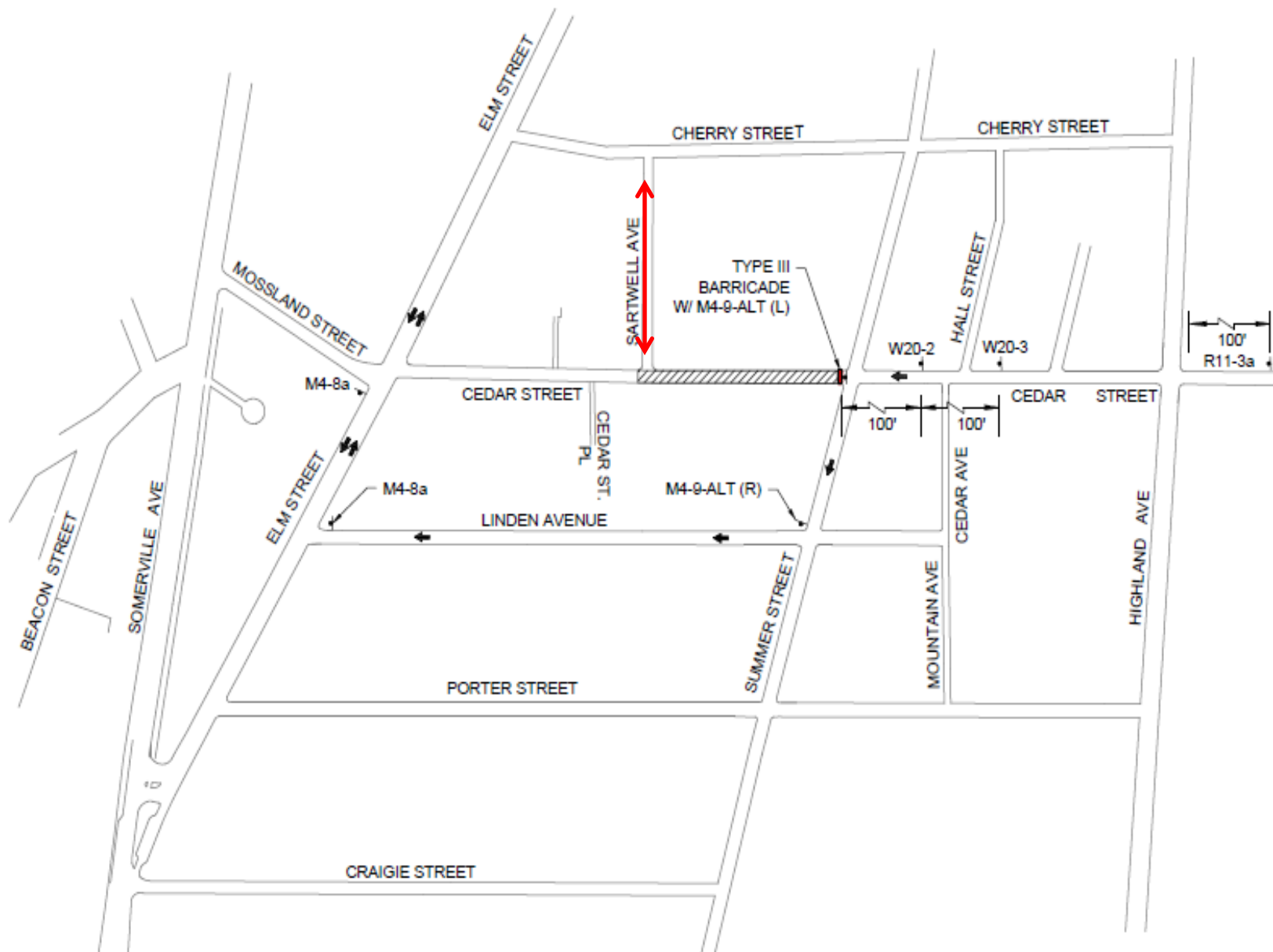
- Gas main in Cedar St. has been replaced and relocated from Highland Ave. to Elm St.
- Water, Sewer and Drain has been installed in Cedar St to just shy of Summer St.
- Drain has been installed in Elm St., from Cedar to just shy of Somerville Ave.

Upcoming Activities

- Pre-blast survey
 - March-June 2017
- Drain and Sewer Installation
 - June – November/December 2017
- Water Main Installation
 - Spring 2018
- Road Reconstruction
 - Summer/Fall 2018

Traffic Impacts

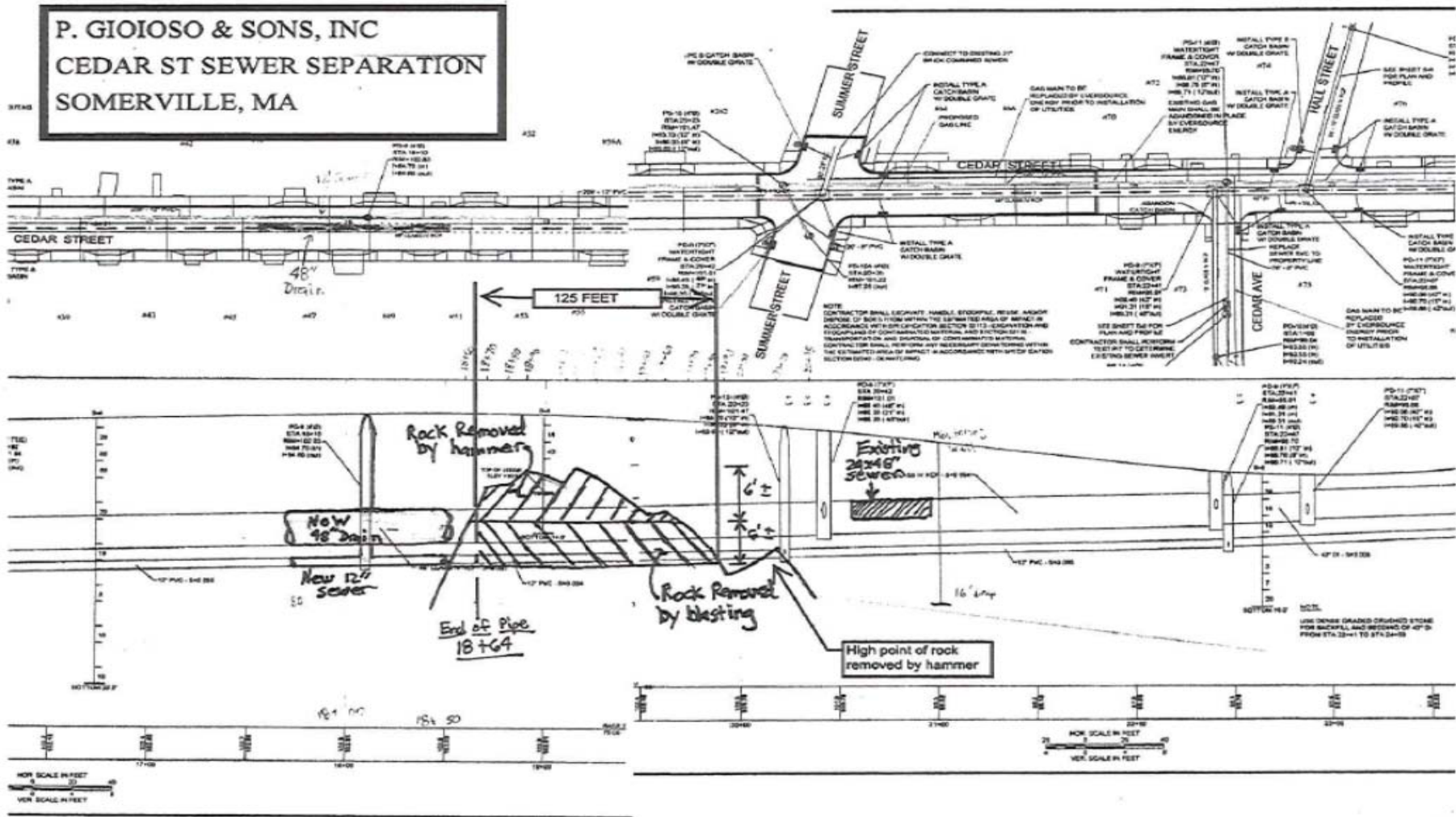
- Cedar Street closed at Summer St to thru traffic
- Road will be closed with jersey barriers overnight (7:00 PM to 7:00 AM) at trench location Monday to Friday morning
- Cedar St will be reopened most weekend to local traffic only
 - Road closure will be similar to approach implemented last fall
- Residents can access driveways using Sartwell Ave



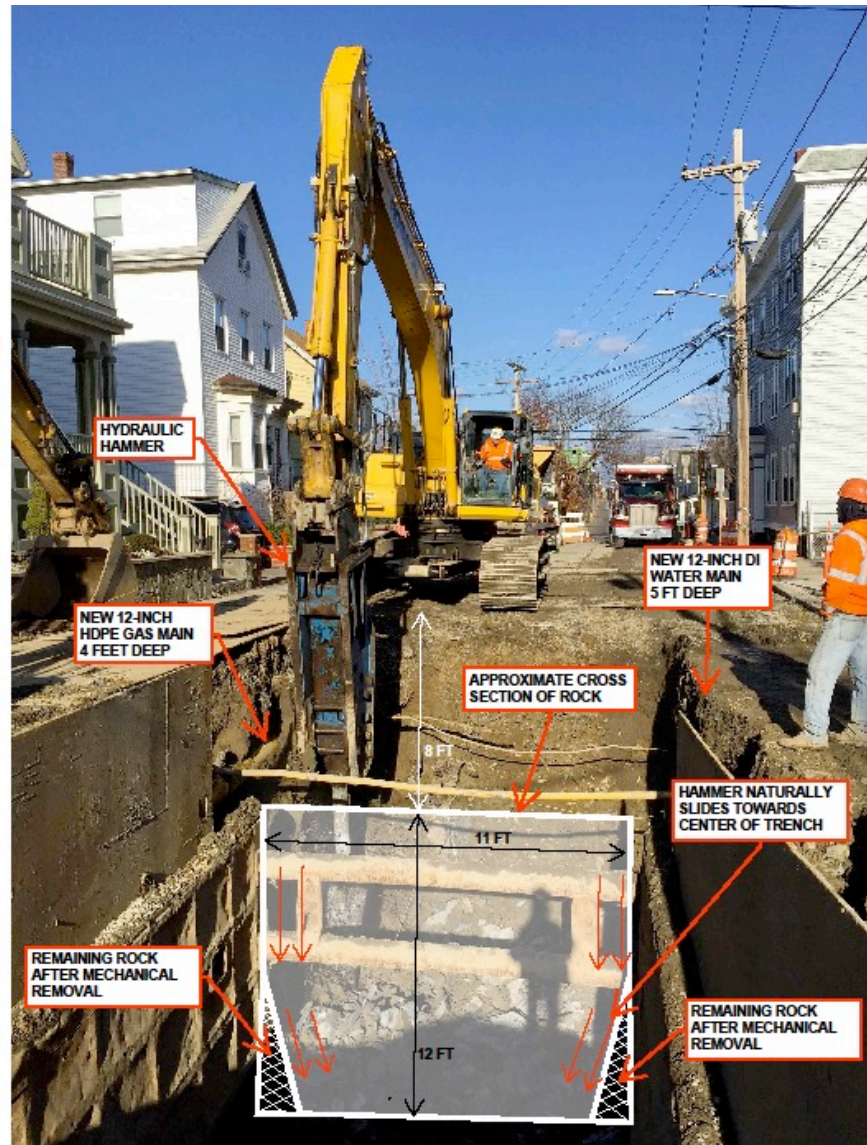
**PHASE 2 - CEDAR STREET CLOSED
BETWEEN SARTWELL AVE AND SUMMER STREET**

Construction Challenge

Located ~ 150 south of Summer St



Mechanical Ramming



NOTE: FULL TRENCH WIDTH (11 FT) IS REQUIRED AT BOTTOM OF TRENCH TO ALLOW FOR INSTALLATION OF THE 12-IN SEWER AND 48-IN DRAIN. AFTER MECHANICAL REMOVAL OF ROCK, THE TRENCH WIDTH AT THE BOTTOM OF THE TRENCH IS LESS THAN THE REQUIRED 11-FT WIDTH DUE TO THE HAMMER SLIDING TOWARDS THE CENTER OF THE TRENCH.

Mechanical Ramming

[Mechanical ramming](#)

Blasting

- P. Gioioso submitted a blasting proposal
 - Proposal contained references
 - Positive feed back from those who the City reached
 - Proposal reviewed by
 - Somerville Fire Department
 - Somerville Engineering Department
 - Weston & Sampson
- P. Gioioso is required to be licensed and insured to do this work
 - Regulated by the Department of Fire Services (527 CMR 1.00)
- Blasting is
 - Designed to break apart rock without damaging adjacent structures or utilities
 - Monitor vibrations using seismographs
- Somerville Fire Department will have crews on site

General Process

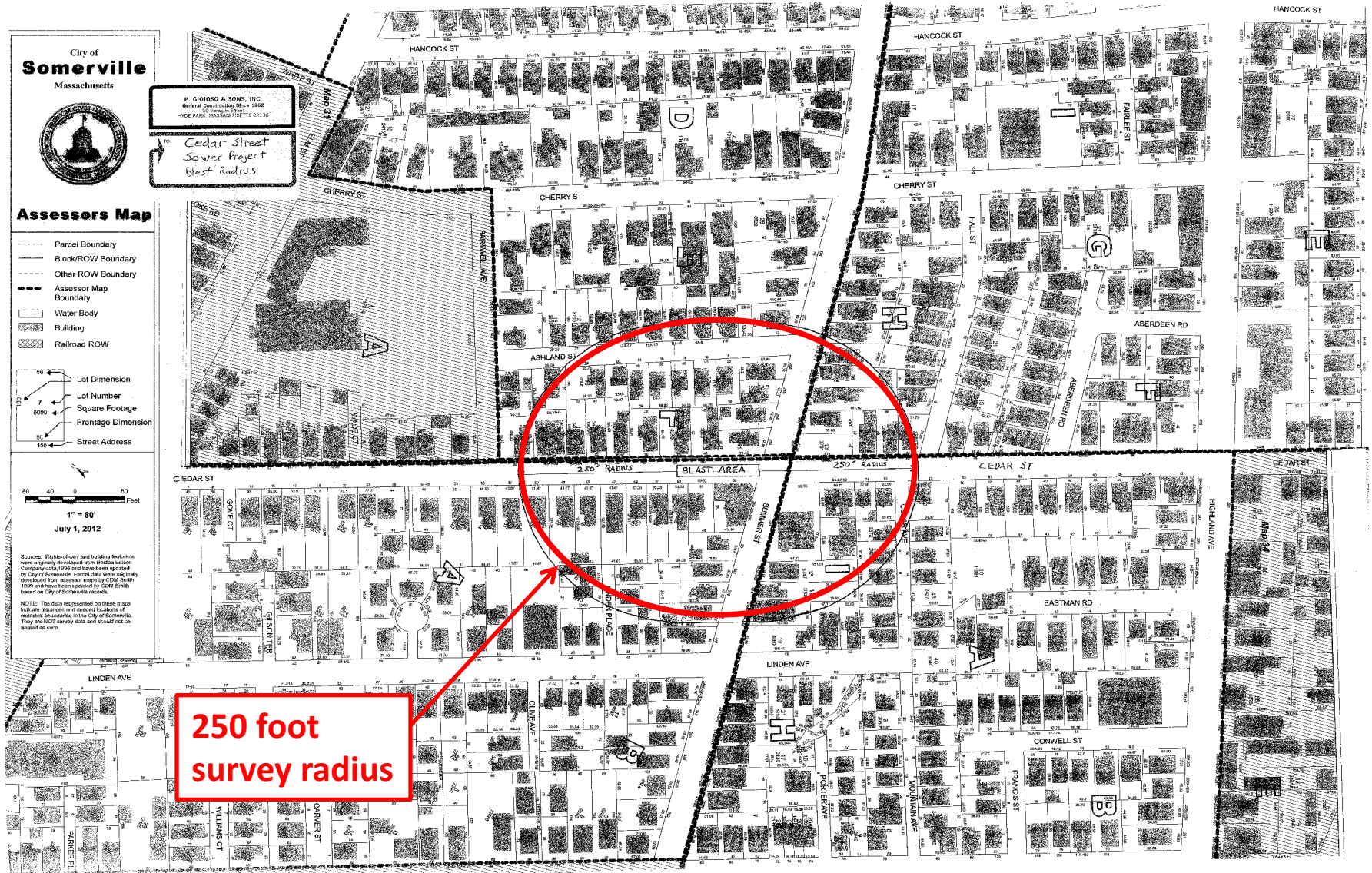
- Review proposal
- Conduct pre-blast survey (6-8 weeks)
- Excavate to top of rock
- Hammer out four (4) to six (6) feet of rock
 - To remove inconsistent/weathered rock
 - Find solid rock for predictable blasting results
- Notification to abutters nearing blasting
- Drill load holes
- Blast rock
- Excavate out broken rock
- Install utilities
- Backfill

Blasting

[Blasting Demo Video](#)

Pre-blast survey

- Pre-blast survey radius



Pre-blast survey

- What does it entail?
 - Interior and exterior
 - Professional inspectors entering your home.
 - Photo and video record with audio commentary.
 - Looking for cracks; document existing conditions before blasting.
 - 3 options
 - Refusal
 - Interior/ exterior
 - Combination of interior or exterior

Pre-blast survey

- Who conducts it?
 - Seismic Solutions (3rd party – hired by contractor)
 - 1 or 2 inspectors
- How long does it take?
 - Depends on size
 - Roughly an hour to 1.75 hours
- Why is it done?
 - To protect property owner and contractor in the event of a claim

Pre-blast survey

- What can I anticipate?
 - Seismic Solutions will contact property owner to set up an appointment.
 - Contact will be via phone, notice in door and letter.
 - All survey done via an appointment
 - No cost to the property owner.
 - Important to respond in timely manner, even if you don't want a survey.

Damage to property

- Who do I contact?
 - Contact Somerville Fire Department
- What is the process?
 - The Fire Department works with City Departments who in turn work with contactor.
 - Contactor will investigate and possibly reach out to Seismic solutions to do post survey.
 - Create a field report from the post survey and depending on the severity it might go to the insurance company.
- How long do I have to notify about potential damage?
 - 30 days after last day of blasting
- Property owner can request a copy of the survey
 - Survey cannot be released without written permission of the property owner.
- **Note the day you notice possible damage!**

Questions/comments

- Somerville Engineering Department
 - Bryan Manter, PE
 - (617) 625-6600 ext 5416
 - bmanter@somervillema.gov
- Somerville Fire Department
 - (617) 623-1700 ext 8400
 - fire@somervillema.gov
 - 266 Broadway
Somerville, MA 02145
 - <http://www.somervillema.gov/fire>